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IS 6893-12 (1992): Proforma for purchase specification for machine tools, Part 12: Horizontal boring and milling machines (table type) [PGD 3: Machine Tools]

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भाग 12 क्षेत्रिज वेधन और मिलिंग मशीनें ( मेज़ तुमा )

*Indian Standard*

**PROFORMA FOR PURCHASE SPECIFICATION  
FOR MACHINE TOOLS**

**PART 12 HORIZONTAL BORING AND MILLING MACHINES ( TABLE TYPE )**

UDC 621.914.4 : 658.711.6 ( 082.22 )

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**BUREAU OF INDIAN STANDARDS**  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

## FOREWORD

The proforma for preparation of purchase specification for machine tools has been prepared to enable a prospective buyer to collect data from various manufacturers/suppliers for the purposes of comparison. This proforma is meant to be sent out with an enquiry by the purchaser so that the manufacturers/suppliers can fill in the data and send it back to the purchaser to make the comparison easier for the purchaser.

While preparing this standard considerable assistance has been taken from the data supplied by the leading manufacturers and users of the product.

*Indian Standard***PROFORMA FOR PURCHASE SPECIFICATION  
FOR MACHINE TOOLS****PART 12 HORIZONTAL BORING AND MILLING MACHINES ( TABLE TYPE )****1 SCOPE**

This standard recommends the proforma for purchase specification for horizontal boring and milling machines. It also gives the essential information about the horizontal boring and milling machines and their accessories which will enable the user to assess their usefulness and suitability for requirements.

**2 REFERENCES**

Following Indian Standards are necessary adjuncts to this standard:

<i>IS No.</i>	<i>Title</i>	<i>IS No.</i>	<i>Title</i>
5 : 1978	Colours for ready mixed paint ( <i>third revision</i> )	10988 : 1984	Method of measurement of noise from machine tools
1231 : 1974	Dimensions of three-phase foot-mounted induction motors ( <i>third revision</i> )	11958 (Part 1) : 1987	Test chart for boring and milling machines with horizontal spindle : Part 1 Table type machines
1715 : 1986	Dimensions for self holding tapers ( <i>second revision</i> )	12075 : 1987	Mechanical vibration of rotating electrical machines with shaft heights 56 mm and higher—measurement, evaluation and limits of vibration severity
2013 : 1985	Dimension for T-slots ( <i>second revision</i> )		

**3 PROFORMA**

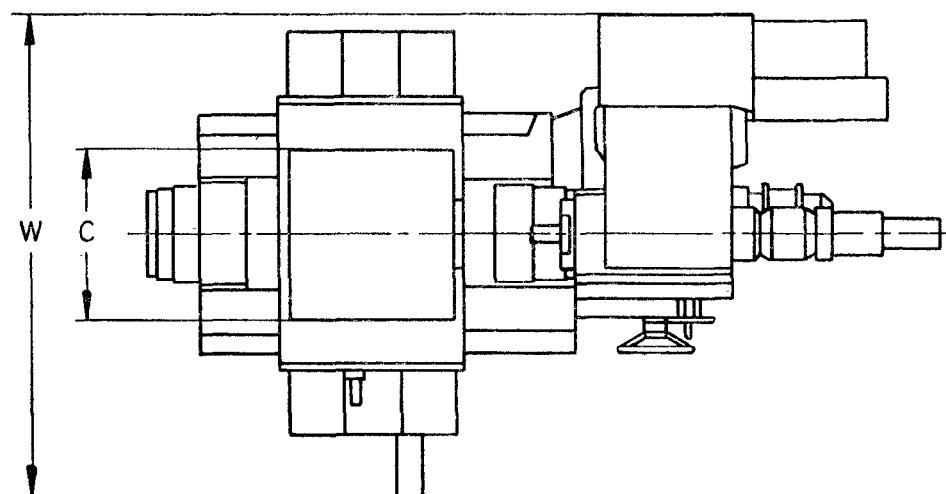
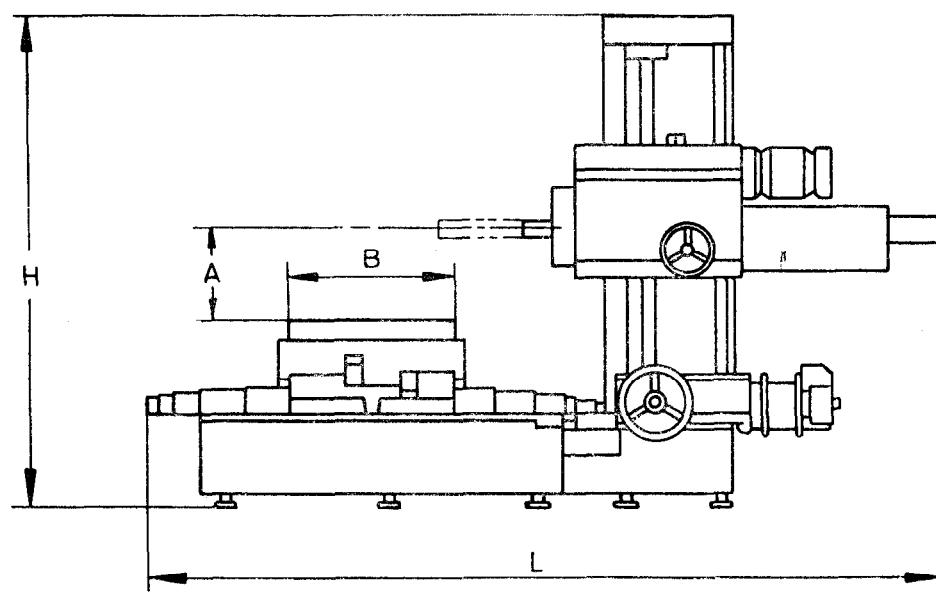
<i>Specification</i>	<i>Reference to Indian Standard</i>	<i>Unit</i>	<i>Actual Value</i>
(1)	(2)	(3)	(4)
<b>3.1 Spindle Head</b>			
<b>3.1.1 Diameter of Drilling &amp; Boring Spindle</b>		mm	
<b>3.1.2 Internal Taper of the Spindle</b>	IS 1715 : 1986/ IS 2340 : 1972	MT No./ISO Taper No.	
<b>3.1.3 Milling Spindle Nose</b>	IS 2340 : 1972	ISO	
<b>3.1.4 Distance of Spindle Axis from Clamping Surface to Table</b>		mm	
a) Minimum		mm	
b) Maximum		mm	
<b>3.2 Table</b>			
<b>3.2.1 Clamping Surface</b>		mm × mm	
<b>3.2.2 Size of T-Slot</b>			
a) Nominal size	IS 2013 : 1985	mm	
b) Number/spacing	IS 2642 : 1985	No./mm	

Specification	Reference to Indian Standard	Unit	Actual Value
(1)	(2)	(3)	(4)
<b>3.2.3 Maximum Load on Table</b>		kg	
<b>3.2.4 Table Area</b>			
a) Clamping		Maximum	
b) Overall		Maximum	
<b>3.3 Traverses</b>			
<b>3.3.1 Traverse of Drilling &amp; Boring Spindle</b>		mm	
<b>3.3.2 Vertical Traverse of Spindle Head</b>		mm	
<b>3.3.3 Longitudinal Traverse of Table</b>		mm	
<b>3.3.4 Cross Traverse of Table</b>		mm	
<b>3.4 Spindle Speeds</b>			
<b>3.4.1 Number of Speeds/Range</b>		rev/min	
<b>3.5 Feeds</b>		mm/rev	
<b>3.5.1 Number of Feeds/Range</b>		mm/min	
<b>3.5.2 Rapid Traverse</b>			
a) Longitudinal		m/min	
b) Transverse		m/min	
c) Vertical		m/min	
d) Boring spindle ( axial )		m/min	
<b>3.6 Lubrication</b>			
<b>3.6.1 Type of Lubrication Systems</b>			
<b>3.7 Electricals</b>			
<b>3.7.1 Total Power</b>		kW	
<b>3.7.2 Power Supply</b>		V, Ph & Hz	
<b>3.7.3 Motor(s)</b>			
<b>3.7.3.1 Main</b>			
a) Type			
b) Frame size and mounting	IS 1231 : 1974		
c) Output		kW	
d) Speed(s)		rev/min	
e) No. of phases			
f) Power factor			
g) Efficiency		Percent	
h) Rated voltage		V	
j) Frequency		Hz	
k) Type of duty			
m) Class of insulation			
n) Ambient temperature		°C	
p) Type of protection	IS 4691 : 1985		
q) Type of cooling	IS 6362 : 1971		
r) Vibration limits	IS 12075 : 1987		
s) Any other feature			

Specification	Reference to Indian Standard	Unit	Actual Value
(1)	(2)	(3)	(4)
<b>3.7.3.2 Other motor(s)</b>			
( Feed motors, rapid traverse motor, coolant motor, etc )			
a) Type			
b) Frame size and mounting	IS 1231 : 1974		
c) Output		kW	
d) Speed(s)		rev/min	
e) No. of phases			
f) Power factor			
g) Efficiency		Percent	
h) Rated voltage		V	
j) Frequency		Hz	
k) Type of duty			
m) Class of insulation			
n) Ambient temperature		°C	
p) Type of protection	IS 4691 : 1985		
q) Type of cooling	IS 6362 : 1971		
r) Vibration limits	IS 12075 : 1987		
s) Any other feature			
<b>3.8 Noise Emitted by Machine</b>	IS 10988 : 1984	dB ( A )	
<b>3.9 Mechanical Guarding</b>	IS 9474 : 1980		
<b>3.10 Geometrical and Practical Accuracy</b>	IS 11958 ( Part 1 ) : 1987		
<b>3.11 Colour(s)</b>	IS 5 : 1978		
<b>3.12 Weight of the Machine with Standard Equipment</b>		kg	
<b>3.13 Floor Space Required</b> ( Length × Width × Height )		mm × mm × mm	
<b>3.14 Facing Head</b>			
a) Diameter of facing head		mm	
b) Traverse of facing slide		mm	
c) i) Boring and facing dia; <i>Max</i>		mm	
ii) Turning dia; <i>Max</i>		mm	
<b>3.15 Standards Accessories</b> ( Details of accessories — IS No. to be specified wherever applicable )			
<b>3.16 Special Accessories</b> Boring stay, Milling head, Boring bars, Tool holders, Rotary table, Digital readouts, Indexing tables, etc			
NOTE — While submitting quotations, the following information shall be furnished by manufacturers/suppliers together with technical literatures and capacity chart of the machine ( see Annex A for a representative capacity chart for horizontal boring and milling machine ):			
a) Hardness of guideways of 1) Column 2) Table			
b) Any other special features			

ANNEX A

REPRESENTATIVE CAPACITY CHART FOR HORIZONTAL MILLING AND BORING MACHINES



A — Spindle axis to table clamping surface minimum/maximum =

B — Table length =

C — Table width =

L — Overall length =

W — Overall width =

H — Overall height =

NOTE — Manufacturers/suppliers shall specify the basic information called for in the figure as given above.

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## BUREAU OF INDIAN STANDARDS

### Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002  
Telephones : 331 01 31, 331 13 75

Telegrams : Manaksantha  
( Common to all Offices )

### Regional Offices:

Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110002	Telephone { 331 01 31 331 13 75
Eastern : 1/14 C. I. T. Scheme VII M. V. I. P. Road, Maniktola CALCUTTA 700054	Telephone { 37 84 99, 37 85 61 37 86 26, 37 86 62
Northern : SCO 445-446, Sector 35-C, CHANDIGARH 160036	Telephone { 53 38 43, 53 16 40 53 23 84
Southern : C. I. T. Campus, IV Cross Road, MADRAS 600113	Telephone { 235 02 16, 235 04 42 235 15 19, 235 23 15
Western : Manakalaya, E9 MIDC, Marol, Andheri ( East ) BOMBAY 400093	Telephone { 632 92 95, 632 78 58 632 78 91, 632 78 92
Branches : AHMADABAD, BANGALORE, BHOPAL, BHUBANESHWAR, COIMBATORE, FARIDABAD, GHAZIABAD, GUWAHATI, HYDERABAD, JAIPUR, KANPUR, LUCKNOW, PATNA, THIRUVANANTHAPURAM.	